

I claim:

1 1. A fastener arrangement for attaching one or more flat rectangular solar panels onto a rack
 2 formed of one or more channel members, the channel member having an elongated slot with a
 3 pair of inwardly facing flanges defining said slot; said fastener comprising a clip member having
 4 a generally T-shaped profile with a stem portion with opposed flat sides and a cap portion at an
 5 upper end of the stem member with flanges extending above said opposed flat sides; a threaded
 6 fastener member rotatable in said stem portion and extending downward therefrom; and a
 7 channel nut adapted to engage the flanges of said channel member, the channel nut having
 8 female threads to receive said threaded fastener therein.

1 2. The fastener arrangement according to Claim 1 wherein said clip member is injection molded
 2 of a sturdy plastic material.

1 3. The fastener arrangement according to Claim 1 wherein stem portion has a width sufficient to
 2 span across said channel member, and has a lower surface with contoured ends that continue
 3 over edges of said channel member.

1 4. The fastener arrangement according to Claim 1 further comprising a pair of struts joining said
 2 clip member with said channel nut.

1 5. The fastener arrangement according to Claim 4 wherein said struts are resilient and
 2 deformable to bend when the threaded fastener member is tightened down on said channel nut.

1 6. The fastener arrangement according to Claim 4 wherein said struts are frangible member that
 2 break when the threaded fastener member is tightened down on said channel nut.

1 7. The fastener arrangement according to Claim 4 wherein said clip member, said channel nut,
 2 and said struts are unitarily molded.

1 8. The fastener arrangement according to Claim 1 wherein said threaded fastener includes a pair
2 of bolts arranged in a pair of holes in said clip member and which are received in respective
3 threaded sockets in said channel nut.

1 9. A solar collector arrangement comprising one or more parallel rows of solar panels, each said
2 row including:

3 a rack which comprises at least one elongated channel member, each said channel
4 member having an elongated slot with a pair of inwardly facing flanges defining said slot;

5 a plurality of flat generally rectangular solar panels; and

6 a plurality of fastener arrangements holding said solar panels side by side onto said rack,
7 each said fastener arrangement including a clip member having a generally T-shaped profile with
8 a stem portion with opposed flat sides and a cap portion at an upper end of the stem member with
9 flanges extending above said opposed flat sides for engaging respective edges of said solar
10 panels; a threaded fastener member rotatable in said stem portion and extending downward
11 therefrom; and a channel nut adapted to engage the flanges of said channel member, the channel
12 nut having female threads to receive said threaded fastener therein .

1 10. A solar collector arrangement according to Claim 9 further comprising strips of glazing
2 material positioned between said solar panels and respective ones of said at least one channel
3 member to provide cushioning and electrical isolation between said solar panels and said channel
4 members.

1 11. A solar collector arrangement according to Claim 9 further comprising at least one extruded
2 resilient filler gasket disposed between adjacent ones of said solar panels at one or both sides of
3 each of said fastener arrangements.

1 12. A solar energy collection arrangement according to Claim 11 wherein gasket is made of a

2 rubberlike material.

1 13. A solar energy collection arrangement according to Claim 11 wherein said gasket has a pair
2 of spaced flanges along each of two opposed edges, each pair defining a receptacle for fitting
3 over an edge of a solar panel.

1 14. A solar collector arrangement comprising at least one support beam, an array of rectangular
2 solar panels attached along said support beam, and a plurality of clamps for clamping said
3 rectangular solar panels onto said support beam, each said clamp including an upper clamp
4 portion having a generally T-shaped profile with a central stem and a pair of transverse flanges at
5 upper edges of said central stem; a lower clamp member shaped to clamp against a portion of
6 said support beam to hold the upper clamp member down against said support beam, and adapted
7 to receive at least one threaded fastener member passing through said upper clamp member.

1 15. Solar collector arrangement according to Claim 14, wherein said lower clamp portion has a
2 pair of bolt receiving portions and an arched portion between said bolt receiving portions.

1 16. Solar collector arrangement according to Claim 14, further comprising at least one strip of a
2 glazing material situated on said support beam for cushioning said solar panels.

1 17. A method of installing flat solar panels onto a support formed of one or more elongated
2 support beams, comprising, applying glazing material onto one or the other of the solar panels
3 and support beams; positioning the panels in place on the support beams so that the panels are
4 held by the tape onto the beams; attaching to the support beams, in spaces between adjacent ones
5 of said panels, fastener clips, each said fastener clip including a clip member having a generally
6 T-shaped profile with a stem portion with opposed flat sides and a cap portion at an upper end of
7 the stem member with flanges extending above said opposed flat sides, a threaded fastener
8 member rotatable in said stem portion and extending downward therefrom, and a retainer

9 member adapted to engage a portion of the associated support beam, the retainer member having
10 threads to receive said threaded fastener therein; and rotating said threaded fastener member to
11 clamp said clip member to edges of said adjacent panels on said support beam.

1 18. A method of installing flat solar panels onto a support according to Claim 17, further
2 comprising running electrical wires carrying power from said panels through a wireway formed
3 in said support beams.

1 19. A method of installing flat solar panels onto a support according to Claim 17, wherein said
2 support beam includes a channel member having one slotted side with a pair of inwardly directed
3 flanges defining a slot therebetween; and said step of attaching said fastener clips includes for
4 each such clip inserting the retainer member thereof through the slot, and by rotating said
5 threaded fastener member drawing said retainer member against said inwardly directed flanges.